

Explore These Possibilities

with

ams



EZ-MICRO-586 Trainer

Using 80586 (Pentium) Microprocessor

Main Board Specs

- 80586 CPU
- 512 KB SRAM, 512 KB FLASH, 114 byte internal RAM
- Analog to Digital Converter (TLC2543 from Texas Instrument)
- Digital to Analog Converter (LTC1446 from Linear Technology)
- 2 x 16 LCD Display
- 4x4 Keypad
- 4 Input Sensing Switch
- 4 Digital Inputs
- 4 Digital Outputs
- Serial Port
- Built-in Monitor



EZ-586 Courseware consists of 32 Bit 586 processor based board, Win 9X compatible software, student workbook and Instructor workbook. The software includes Integrated Development system with built in C compiler.

The EZ-586 board integrates 586 CPU and a high performance ANSI/IEEE 754 compliant 64-bit hardware floating point unit (FPU).

The FPU provides arithmetic instructions to handle numeric data and transcendental functions for sine, tangent, logarithms, etc, making this controller useful for intensive computational applications. It is estimated to be 10-50 times faster than software-emulate on an 8/16-bit controller without a FPU.

EZ-586 Tutor Board supports up to 15 external interrupts. There are a total of seven timers, including one programmable interval timer (PIT) that provides three 16-bit PIT timers and three 16-bit GP timers, plus a software timer. These timers can support timing or counting external events. The software timer provides a very efficient hardware time base with microsecond resolution. A real-time clock (RTC) provides time-of-day, 100-year calendar and 114 bytes of battery backed RAM.

Two industrial-standard 16550-compatible UARTs support baud rates up to 1.152 M baud. One synchronous serial interface (SSI) supports full-duplex bi-directional communication.

EZ-586 Tutor Board boots from on-board 256K 16-bit ACTF Flash, and supports up to 256K 16-bit battery-backed SRAM.

There are 32 programmable multifunctional I/O lines (PIO) that can be used as general I/O or other functions. Two supervisor chips monitor 5V and 3.3V and provide power failure detection, watchdog and system reset. The 2.5V is used for the CPU CORE and 3.3V for the I/O operation. Signal lines on headers are 3.3V output, and 5V maximum input.

Analog to Digital Converter (TLC2543 from Texas Instrument)

- 12-Bit-Resolution A/D Converter
- 10- μ s Conversion Time Over Operating Temperature
- 11 Analog Input Channels
- 3 Built-In Self-Test Modes
- Inherent Sample-and-Hold Function
- Linearity Error . . . ± 1 LSB Max
- On-Chip System Clock
- End-of-Conversion Output
- Unipolar or Bipolar Output Operation (Signed Binary With Respect to 1/2 the Applied Voltage Reference)
- Programmable MSB or LSB First
- Programmable Power Down
- Programmable Output Data Length
- 20KHZ Sample Rate

Trainer Package Includes:

- Trainer Board
- RS232C Cable
- Power Supply
- Win 95/98/NT/2000/XP & Vista Compatible Manager Software
- Built-in Editor
- Built-in Assembler
- 'C' Compiler
- 200+ Page Student Workbook
- Instructor Manual includes answers to all exercises
- Expansion Connector for Wire-wrap and other Project Board
- Hardware and Software Exercises

Digital to Analog Converter (LTC1446 from Linear Technology)

- Dual DACs with 12-Bit Resolution
- Rail-to-Rail Output Amplifiers
- Internal Reference
- Maximum DNL Error: 0.5LSB
- Settling Time: 14 μ s to ± 0.5 LSB
- Power-on Reset Clears DACs to 0V
- 3-Wire Cascadable Serial Interface with 500kHz Update Rate
- Schmitt Trigger On Input Allows Direct Optocoupler Interface

Workbook-An Integrated Part of the Program

The EZ-MICRO COURSEWARE book is an integrated curriculum that has a student version and instructor's version of the workbook. The workbook contains exactly what you need to know to make complex subjects easy-to-learn.

The workbook contains detailed explanations of theory and also includes different lab projects for students to complete. Each chapter ends with questions and suggested lab projects.

The instructor workbook includes the answers to all the questions, provides the schematic designs of all the hardware lab projects and has a software listing of all the software lab projects.



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EZ-DSP TutorTM

**Digital Signal Processing Design
Using the TMS 320C5X**



AMS's EZ-DSP Tutor is an easy to implement Digital Signal Processing course. The courseware program includes software, DSP main board, lab board, comprehensive workbook for student and instructor's manual. The course is based on the Texas Instrument's DSP processor.

EZ-DSP Tutor course is an ideal engineering curriculum as an introductory course. It teaches the fundamentals of digital signal processor, its architecture and programming. EZ-DSP Tutor also covers digital signal processing and applications in great detail.

EZ-DSP Tutor Includes:

- EZ-DSP Lab Software Package
- EZ-DSP CPU Board
- Lab Project Board
- 300+ Page Student Courseware Book
- Instructor's Lab Manual

It Covers the Following Important Topics:

- Introduction to DSP Chips and DSP System Design Process
- DSP Chip architecture and Instruction Set
- Interface to Outside world
- Lab Experiment:
 - Touch-Tone phone dialer and decoder
 - Word recognition
- Simulation of Hearing impairment using real-time FIR Filtering
- Suppression of 60 Hz. Interference in Biomedical equipment using IIR Band-Rejection Filtering



**Easy Integration
into Engineering
Curriculum**



What Our Users Say

"Sharpest and quickest teaching curve of any software we've ever seen. Thank you." – *Phil Millard - Palm Beach Community College*

"Outstanding student workbook. Great price. All Educational institutions should integrate this excellent curriculum."

– *Chrys Panayiotou - Breverd Community College*

"Finally something that performs 100% as advertised. Students find it EZ-to-learn, thanks." – *Dr. Paris Wiley - University of Florida*

EZ-DSP Tutor Includes:

Elements of the EZ-DSP Tutor

Hardware

Main Board: Texas Instrument TMS digital signal processor, monitor EPROM, RAM, serial interface to PC, analog/digital input/output and I/O connector for expansion.

Software

EZ-DSP Tutor Project Manager software comes with built-in assembler, debugger and PC to tutorial board interface capability. It also displays the status of analog and digital ports.



EZ-DSP Tutor

AMS's EZ-COURSEWARE Educational series also includes an easy to implement Digital Signal Processor Course. As a leader in providing state-of-the-art teaching tools, once again AMS is offering this one of a kind integrated curriculum in the DSP area. To help you keep pace with leading edge technology and to help you prepare tomorrow's engineers for the real-world job market, AMS has prepared this course which are very easy to implement and easy to learn.

Lab Project Board

Several lab project are available which are compatible with the DSP Tutor board. The lab project covers a variety of different subjects such as speech recognition, image processing, instrumentation, communication and multimedia.

Workbook

This is a self-study workbook designed to introduce Digital Signal Processing design and its applications in a real-time environment. It offers the reader an in-depth knowledge of a complex subject in easy-to-understand language. It also provides step-by-step instructions with hands-on-training using several lab experiments. It uses TMS 320C5x DSP chips from Texas Instrument.

Benefits of the AMS Educational Program

- Minimal, if any, direct cost to school.
- Provides "Real World" experience to student.
- Student owns personal copy of software or hardware boards.
- Updates schools' electronic lab with the state-of-the-art learning tool.
- Prepares student with the knowledge which he applies in the industry



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EZ-MICRO-11A Tutor™



EZ-Micro Tutor series of courseware from AMS is the first and only complete microprocessor/ microcontroller design courses available to community colleges, vocational colleges and universities. All the courses are a complete and affordable way to integrate into any engineering curriculum or it can be used for in-house training.

EZ-Micro Tutor Advanced Includes:

• **EZ-Micro Board**

The Board includes Motorola/Intel, 32 K bytes of RAM, EPROM, 8 Channel A/D Port, 2x20 Characters LCD, Keypad, LED Indication of Port Activity, RS232 Port, Motor Control Port

• **EZ-Micro Manager Software**

Windows 95/98/2000/NT compatible Integrated Software with Built-in Editor, Assembler, C compiler and Debugger.

• **Microprocessor Design Made Easy Student Workbook**

• **Instructor's Manual**

Main Board Specs

- Motorola/Intel
- 32K RAM , 32K EPROM
- 8 Channel A/D
- 1 Channel D/A
- 2 x 16LCD Display
- 4x4 Keypad
- 4 Input Sensing Switch
- 4 Digital Inputs, 4 Digital Outputs
- Serial Port
- Built-in Monitor

Package Includes

- Windows 95/98/2000/NT compatible Integrated Software with Built-in Editor, Assembler.
- C compiler and Debugger.
- 200+ Page Student Workbook
- Instructor Manual includes answers to all exercises
- Expansion Connector for Wire-wrap and other Project Board
- Hundreds of Hardware and Software Exercises

EZ-MICRO-12 Tutor™



EZ-Micro Tutor series of courseware from AMS is the first and only complete microprocessor/ microcontroller design courses available to community colleges, vocational colleges and universities. All the courses are a complete and affordable way to integrate into any engineering curriculum or it can be used for in-house training.

EZ-Micro Tutor Advanced Includes:

- **EZ-Micro Board**

The Board includes Motorola MC68HC12, 32 K bytes of RAM, EPROM, 8 Channel A/D Port, 2x20 Characters LCD, Keypad, LED Indication of Port Activity, RS232 Port, Motor Control Port

- **EZ-Micro Manager Software**

Windows 95/98/ME/NT/2000/XP/Vista compatible Integrated Software with Built-in Editor, Assembler, C compiler and Debugger.

- **Microprocessor Design Made Easy Student Workbook**

- **Instructor's Manual**

Main Board Specs

- Motorola MC68HC12, MC68HCS12
- 32K RAM , 32K EPROM
- 8 Channel A/D
- 1 Channel D/A
- 2 x 16LCD Display
- 4x4 Keypad
- 4 Input Sensing Switch
- 4 Digital Inputs, 4 Digital Outputs
- Serial Port
- Built-in Monitor

Package Includes

- Windows 95/98, ME, NT, 2000, XP, Vista Compatible Manager Software
- Built-in Editor, Built-in Assembler
- 'C' Compiler (Optional)
- 200+ Page Student Workbook
- Instructor Manual includes answers to all exercises
- Expansion Connector for Wire-wrap and other Project Board
- Hundreds of Hardware and Software Exercises

EZ-Micro Tutor main tutorial boards from AMS use the Motorola MC68HC12 microprocessor. It includes monitor EPROM, RAM, serial interface to IBM compatible PC and expansion bus connector.

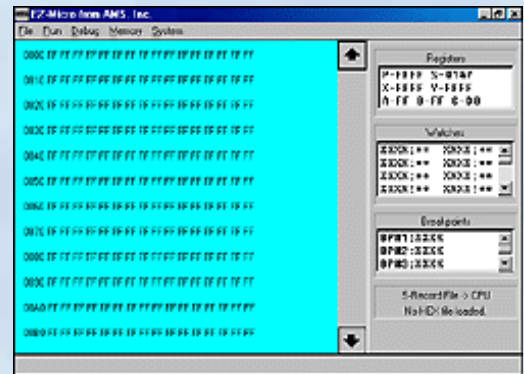
The monitor EPROM serves two important functions: It allows students to communicate with the CPU via a serial interface, and it also works as a boot EPROM, which brings the microprocessor up to a predetermined stage after the power-on sequence.

The 32k bytes of RAM on the main board are used to store the user's program and data variables. The main board also has a serial interface to IBM compatible personal computers. This serial interface allows the user to download commands and programs to main board RAM.

The expansion bus connector on the main board is very important, because it allows the student to connect to lab projects. The student can design his or her own lab project and connect it to the main microprocessor board using wire-wrap board. The additional lab project board allows the student to learn hardware design, as well as software design.

Software

The most important item for any computer-assisted teaching tool is the software. The EZ-MICRO manager software is compatible with Windows 95/98, ME, NT, 2000, XP and is designed to be very easy to use. The pull-down menus, dialog box interface and on-line context-sensitive help are the features that make it easy-to-use software. The user can create/edit source code, assemble and download the file from manager software.



Lab Project Hardware and Software

The integrated tutor includes several lab project software such as controlling 2X20 LCD display, A/D inputs, D/A input, Digital input and Digital output.

Workbook – An Integrated Part of the Program

The EZ-MICRO COURSEWARE book is an integrated curriculum that has a student version and instructor's version of the workbook. The workbook contains exactly what you need to know to make complex subjects easy-to-learn.

The workbook contains detailed explanations of theory and also includes different lab projects for students to complete. Each chapter ends with questions and suggested lab projects.

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EZ-MICRO-51/552 TutorTM



EZ-Micro Tutor series of courseware from AMS is the first and only complete microprocessor/ microcontroller design courses available to community colleges, vocational colleges and universities. All the courses are a complete and affordable way to integrate into any engineering curriculum or it can be used for in-house training.

EZ-Micro Tutor Advanced Includes:

• EZ-Micro Board

The Board includes an Intel Compatible Philips CPU (8051/80552), 32 K bytes of RAM, EPROM, 8 Channel A/D Port, 2x16 Characters LCD, Keypad, LED Indication of Port Activity, RS232 Port, Motor Control Port

• EZ-Micro Manager Software

Windows 95/98/ME/NT/2000/XP/Vista compatible Integrated Software with Built-in Editor, Assembler, C compiler and Debugger.

• Microprocessor Design Made Easy Student Workbook

• Instructor's Manual

Main Board Specs

- Intel Compatible Philips CPU (8051/80552)
- 32K RAM , 32K EPROM
- 8 Channel A/D
- 1 Channel D/A
- 2 x 16 LCD Display
- 4x4 Keypad
- 4 Input Sensing Switch
- 4 Digital Inputs, 4 Digital Outputs
- Serial Port
- Built-in Monitor

Package Includes

- Windows 95/98, ME, NT, 2000, XP, Vista Compatible Manager Software
- Built-in Editor, Built-in Assembler
- 'C' Compiler (Optional)
- 200+ Page Student Workbook
- Instructor Manual includes answers to all exercises
- Expansion Connector for Wire-wrap and other Project Board
- Hundreds of Hardware and Software Exercises

EZ-Micro Tutor main tutorial boards from AMS use an Intel Compatible Philips microprocessor. It includes monitor EPROM, RAM, serial interface to IBM compatible PC and expansion bus connector.

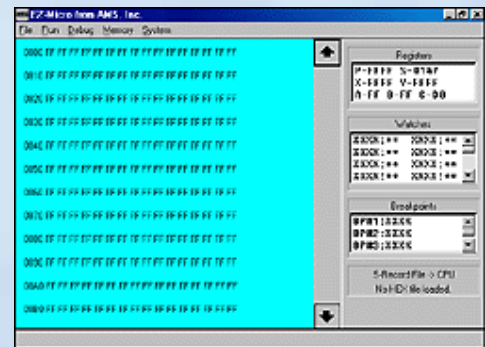
The monitor EPROM serves two important functions: It allows students to communicate with the CPU via a serial interface, and it also works as a boot EPROM, which brings the microprocessor up to a predetermined stage after the power-on sequence.

The 32k bytes of RAM on the main board are used to store the user's program and data variables. The main board also has a serial interface to IBM compatible personal computers. This serial interface allows the user to download commands and programs to main board RAM.

The expansion bus connector on the main board is very important, because it allows the student to connect to lab projects. The student can design his or her own lab project and connect it to the main microprocessor board using wire-wrap board. The additional lab project board allows the student to learn hardware design, as well as software design.

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The instructor workbook includes the answers to all the questions, provides the schematic designs of all the hardware lab projects and has a software listing of all the software lab projects.

8051 Programmer

The pocket-sized 8051 Programmer quickly and easily programs most 8051 microcontrollers. The 8051 programmer includes an 40-pin ZIF socket for programming 8-, 14-, 18-pin, 28 pin, and 40 pin 8051 micro MCUs.



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EZ-PIC-Tutor

Using Microchip 16F8877 CPU



PIC Tutor series of courseware from AMS is the first and only complete Microchip PIC microcontroller design coursewares available to community colleges, vocational colleges and universities. All the coursewares are a complete and affordable way to integrate into any engineering curriculum or it can be used for in-house training, distance learning and self learning.

PIC Tutor boards from AMS use the Microchip PIC microcontroller. They all include LCD display, four seven segment display, serial interface to IBM compatible PC and expansion bus connector.

The expansion bus connector on the main board is very important, because it allows the student to connect to lab projects. The student can design his or her own lab project and connect it to the main microprocessor board using wire-wrap board. The additional lab project board allows the student to learn hardware design, as well as software design.

Main Board Specs

- Microchip 16F877 CPU
- 8 Channel A/D
- 1 Channel D/A
- 2 x 16LCD Display
- 4x4 Keypad
- 4 Input Sensing Switch
- 4 Digital Inputs
- 4 Digital Outputs
- Serial Port

Package Includes

- Windows 95/98/NT/2000/xp/Vista Compatible Manager Software
- Built-in Editor, Built-in Assembler
- 'C' Compiler
- 400+ Page Student Workbook
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Software

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Lab Project Hardware and Software

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PIC Programmer

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CIRCUIT CREATOR™



Discover The Most Complete and Only True Third Generation Electronic Design, Simulation and PCB Layout System for Windows 98/ME/NT/2000/XP & Vista Personal Computers

CircuitCREATOR™ CAE system is the most complete and high performance solution for electronic design using IBM and compatible personal computers. The integrated system includes Schematic Capture, Symbol Editor, Circuit Simulation, PCB Layout Editor, Automatic Router, Gerber Viewer and complete CAM (Computer Aided Manufacturing) support.

CircuitCREATOR Platinum Plus™ is the true professional level system and includes Professional Schematic Design and Capture, full interactive Symbol Editor, Circuit Simulation, professional Printed Circuit Board Design, and Layout, Automatic Routing Gerber Viewer and **CamCreator** – Computer Aided Manufacturing Support.

CircuitCREATOR Platinum™ all the functionality of the Platinum Plus version except CAM Support capability.

CircuitCREATOR Pro™ includes professional Schematic Design and Capture, full interactive Symbol Editor, professional Printed Circuit Board Design, and Layout, Automatic Routing and Gerber Viewer.

CircuitCREATOR STD Plus™ includes Standard Schematic Design and Capture, full interactive Symbol Editor, Printed Circuit Board Design, and Layout and Auto Router.

CircuitCREATOR Std™ includes Standard Schematic Design and Capture, full interactive Symbol Editor, standard Printed Circuit Board Design.

CircuitCREATOR Tutor™ is the ideal system for the educational institution, instructors and students. It

includes Schematic Capture, Symbol Editor, Circuit Simulation, PCB Layout Editor, Automatic Router, and student workbook titled “**Electronic Design, Simulation and PCB Design Using CircuitCREATOR™**”. The book is a step-by-step instructional guide along with a Question & Answer section at the end of each chapter and proposed student projects. It also includes the Instructor’s Manual which includes the answers to the student projects.

CircuitDESIGN Tutor™ includes full Schematic Design and Capture, Circuit Simulator, full interactive Symbol Editor and award winning book titled “**Circuit Design and Simulation Using CircuitCREATOR™**”. The engineering curriculum workbook explains with easy-to-follow step-by-step directions how to enter a schematic design, and perform various analysis such as DC, AC, Transient, Noise and Distortion. It also explains different type of Filter Design such as Butterworth, Chebychev, Bessel, and Gaussian. Includes student projects and Instructor’s Manual.

All CircuitCREATOR versions are available for Windows 95/98/ME/NT/2000/XP and Vista.

CircuitCREATOR delivers the best price/performance in the industry, and when coupled with our free lifetime technical support and supplemental applications manual, no other CAE system can compare.



Call Toll Free 1-800-319-3599

Features at a Glance

CIRCUIT CREATOR Platinum Plus™

Schematic Capture & Design

- ▶ Up to 32 E-size sheets of logic in a single design, even more using hierarchial designs.
- ▶ Complete with standard part & symbol libraries.
- ▶ Over 25,000 part / symbol combinations. Easy library access.
- ▶ Full interactive graphical symbol & part editor included.
- ▶ Dynamically mirror and/or rotate symbols in 16 orientations.
- ▶ DeMorgan equivalents, and more. Represent any part with different symbols. True vector drawn symbols, not fixed & limited bitmaps.
- ▶ Auto re-routing while moving. Not just "Air Lines", but true schematic routing via "Smart Lines".
- ▶ Straight, angled and true bezier curved lines.
- ▶ Complete parts-list, net-list, design verification reports.
- ▶ Interactive design error checking. Errors are pointed out directly on-screen in context.

Circuit Simulation

Spice Mixed Mode Analog Simulation with Schematic Capture, Waveform display, Filter Design and FFT's.

Basic Analysis Types

- ▶ DC Analysis, AC Analysis, Transient Analysis
- ▶ Noise Analysis, Distortion Analysis

Simulation Control of the Analysis Types

- ▶ Temperature Sweeping, Parameter Sweeping, Worst Case Model sweeping, Waveform Calculator

Filter Design

- ▶ Butterworth, Chebychev, Bessel, Gaussian

XSpice/mixed Mode

- ▶ XSpice/mixed Mode Features Included with SpiceCreator
- ▶ Event-Driven Digital Simulation

Printed Circuit Board Design & Layout

- ▶ Boards up to 32 in. square, up to 255 layers with 8 masks each.
- ▶ User selectable cursor layout grid. Up to 1 mil resolution. Items not limited to grid.
- ▶ Multiple line widths. Lines from 0.001 to 0.255 inches wide.
- ▶ Up to 50 different pad shapes and sizes. Custom shapes. Change pad per layer.
- ▶ Export to 15 different CAE programs.
- ▶ Net list compatible to logic simulator.

- ▶ Full blind and buried vias supported.
- ▶ Full surface mount device support.
- ▶ Multiple text attributes per board. Set size, boldness, and more.
- ▶ Full support for power and ground planes, with or without thermal relief.
- ▶ Unique copper pour feature.
- ▶ Built-in print queue up to 10 masks.
- ▶ Interactive part placement. "Rats Nest" prompting for optimal component placement and manual routing.
- ▶ Built-in design rule checking, locates and displays errors on-screen.
- ▶ Imports net lists from most schematic capture programs.
- ▶ Gerber Viewing Capability

P.C.B. Automatic Routing

- ▶ Directly compatible with Board Creator.
- ▶ Routes multi-layer boards, 2 layers at a time, with different line widths. For example, different width ground traces, different width for power traces and a different width for other signal traces.
- ▶ Respects nets pre-routed by user.
- ▶ May interrupt, edit board, and continue routing.
- ▶ Selectable routing parameters for line widths & clearances, and routing strategies.
- ▶ Generate routing schedule automatically, or by hand, or both. Specify a specific layer for edge connectors or SMD components.
- ▶ Uses proprietary artificial intelligence routing algorithm.

Computer Aided Manufacturing Support

- ▶ Interfaces to all popular CAD software, and manufacturing equipment
- ▶ Accurate to 0.001 inch
- ▶ 256 layers.
- ▶ 1000 apertures per aperture list and 1000 tools per tool list.
- ▶ Panelization Automatic and manual
- ▶ Print to Plotters and Printers
- ▶ Add/Delete TEXT, True Type Font Support
- ▶ Add/Delete Arcs, Circles, Drills, Lines, Pads, Rectangle, Slots, Vertex
- ▶ Import/Export-ASCII, BMP, Barco DPF, Bitmap, DXF, Excellon NC Drill File, Gerber 274-D, 274-X, HPGL, IPC-D-350, IPC-D-356 Netlist, PostScript and several other Popular format files
- ▶ Allows to Change Pads and Line geometry and X-Y Origin
- ▶ Aperture and NC Drill Editor
- ▶ Bare Board Tester Support
- ▶ Support for Chamfer/Fillet lines, and Thieving and Venting patterns.
- ▶ Copper Pour with Solid or cross hatch patterns.



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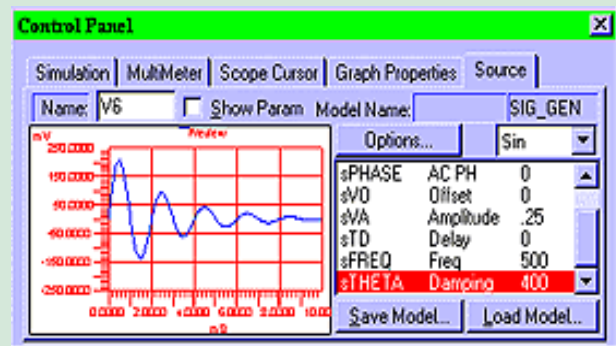
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SpiceCreator

A popular 32-bit analog, digital, mixed signal circuit design and simulation program, sporting the same or more advanced features at a fraction of the cost of other simulators.

Schematics and Simulation

A completely integrated modern user interface circuit design environment, SpiceCreator allows you to quickly and easily capture your schematic designs, perform your simulation, and analyze the results using our powerful signal processor and waveform viewer. You can customize almost everything in the design environment, and easily search for, find, select, and categorize, from thousands of components. Our popular Control Panel allows you to quickly enter component parameters with a single click, and to design waveforms using our graphical signal generator waveform editor, before spending time doing a simulation



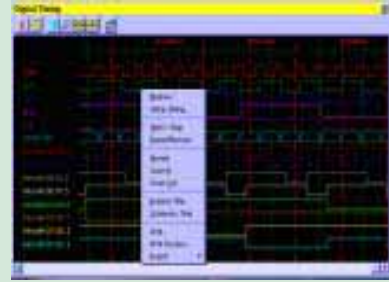
Features of Spice Creator

- Over 7000 analog and digital models
- Includes CMOS and TTL devices etc.
- 21 different analysis types
- Virtual-instruments (including a 64-channel scope, multi meters, power meter etc)
- Real-time interactive operation
- Pause, single step, voltage level breakpoints.
- Programmable workspaces
- Extensive range of indicators which work during simulation including LED, 7 segment displays, light, and more, shown directly in schematic.
- Voltages shown directly in schematic
- Built in model editor
- Symbol editor + device librarian
- Graphical annotations directly on your plots
- Change component values during simulation - see immediate results
- BSIM3V3, BSIM4, SOI support
- Math processor allows you to analyze your simulation results and plot your graphs almost anyway you want.
- Mouse operated device during simulation - switches, keypad, pot, etc
- Project browser

1-800-319-3599
E-Mail: info@advancedmsinc.com

Digital Simulation

SPICE CREATOR built in digital simulator sports the features you want, including built in logic analyzer works like the real thing, allowing you to set up break points, or break on patterns, risign edge, falling edge, any edge, combinations of edges, or specific voltage levels (in the case of mixed mode simulations), real-time scrolling timing diagrams with color coded waveforms so you can easily identify the trace you want, zoom in/out, compress, or expand the waveforms. Programmable voltage threshold logic probe lets you look at any pin during the simulation. Programmable propagation delays, rise/fall times, hi-impedance etc are all supported. Automatically generate truth tables, and you can export your timing diagram to different formats.It supports tri-state and open collector, and open emitter logic, simulates RAM/ROM, data sequencers, test vector devices, clock sources etc, counters, flip-flops, multiplexers, encoders, decoders etc. The simulated LED, Seven segment displays, and virtual keypad work and light up during the simulation to bring your schematic to life. Even sports a simulated keypad which you can click to enter data during the simulation. The simulated virtual led, displays, keypads etc even work in analog and mixed mode so you can have a more realistic simulation. All devices work the same in analog, digital, and mixed modes of simulation.

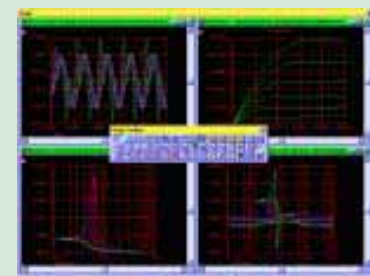
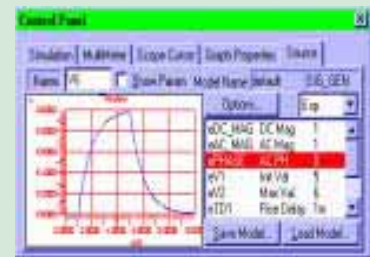


Analog Simulation

Spice creator includes the industry standard Spice3F5 plus XSpice extentions. This combination gives you the power to simulate a very large variety of circuits and systems. Includes over 21 different analysis types, more than any other simulator for the price. Fully interactive mixed mode simulation allows you to mix any digital and analog components in the same circuit and still remain interactively integrated in a single program.

Full real-time cross probing allows you to simply point and click on a wire during the simulation to see the signal there, or to plot current phase, db, magnitude, or almost other math expression. Node voltages and current displayed right on the schematic. Click on multiple points to view any number of waveforms at the same time.

Support for BSIM3V3 Deep Sub Micron, BSIM4, SOI device models. Full suite of over 7000 models including voltage regulators, opamps, comparitors, zener diodes, bridge rectifiers, Vacuum tubes, transmission lines, variables resistors, IGBT, crystals and much more. Import Model Wizard imports standard SPICE3 models/macro models from other manufacturers, even those free models you can download from the web.



**Signal Processor/Waveform Viewer
Library Editor | SpiceCreator Editions**



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Microprocessor/Microcontroller Course on CD



EZ-Courseware Microprocessor/ Microcontroller CD from AMS is Integrated training tool that offers affordable way to learn the latest cutting edge technology in a classroom environment or as a home study program.

Learning Objectives:

To learn microprocessor interface design, assembly language and C language programming using industry standard microprocessors from Intel, Motorola, Texas Instruments and many more.

Topics Covered:

- Introduction to Microprocessors
- Programming the Microprocessor
- Interface to EZ-MICRO Manager software
- Introduction to C Programming
- Interfacing Input/Output and Timer Devices
- Analog to Digital and Digital to Analog Conversion
- Monitor Command
- Architecture and Addressing Modes
- Using the EZ-MICRO Tutor Software
- Introduction to Programming
- Microprocessor Brief Technical Information
- Serial Input/Output
- Assembler Manual
- Microprocessor Commands by Subject

CD Includes:

Power Point Presentation on each topic, EZ-MICRO Manager software. The software has built-in Editor, Assembler, C Compiler and Debugger. Several hands-on exercises and tests.

Pre-Requisites: Knowledge of principles of electronics.
Course Duration: 6 (Hours)



Course on CD Packages

Products	Descriptions
EZ-11CD	Course on CD (MC68HC11)
EZ-11CDBK	Course on CD with Printed Workbook (MC68HC11)
EZ-12CD	Course on CD (MC68HC12)
EZ-12CDBK	Course on CD with Printed Workbook (MC68HC12)
EZ-08CD	Course on CD (MC68HC08)
EZ-08CDBK	Course on CD with Printed Workbook (MC68HC08)
EZ-16CD	Course on CD (MC68HC16)
EZ-16CDBK	Course on CD with Printed Workbook (MC68HC16)
EZ-86CD	Course on CD (Intel 8086/486)
EZ-86CDBK	Course on CD with Printed Workbook (Intel 8086/486)
EZ-51CD	Course on CD (Intel/Philips 8051/552)
EZ-51CDBK	Course on CD with Printed Workbook (Intel/Philips 8051/52)
EZ-PICCD	Course on CD (PIC 16X series)
EZ-PICCDBK	Course on CD with Printed Workbook (PIC 16X series)
EZ-TMSCD	Course on CD (TI DSP TMS 5X series)
EZ-TMSCDBK	Course on CD with Printed Workbook (TI DSP TMS 5X series)
EZ-ADSPCD	Course on CD (Analog Device DSP)
EZ-ADSPCDBK	Course on CD with Printed Workbook (Analog Device DSP)



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EZ Micro Lab/Study Boards



Lab Board with DC Motor



Lab Board with Stepper Motor



Lab Board with Audio Buzzer



Lab Board with PC Compatible Keyboard

- 4 X 4 Matrix Keypad
- 2 X 16 Alfanumeric LCD
- 120 X 64 Pixel Graphical LCD Display
- 4-Digit Seven Segment Display
- DC Motor Controller
- Stepper Motor Controller
- PC/PS2 Keyboard
- Real Time Clock with battery backup.
- 12-bit DAC
- 12-bit ADC
- 8-line Relay Card
- RS-485 communication
- CAN2 Communication
- Multi Media and Secure Digital cards
- Compact Flash
- IrDA communication
- Wireless RS-232 communication
- 8-Channel Opto-Isolator Board



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The Project CD from AMS is the first and only integrated product that includes several practical projects combined with the software. Each Project on the CD include theory of operation, Schematic file, PCB Layout file and Component list. It also includes fully functional schematic design software, fully functional PCB layout software, and complete assembly instructions for each project. These projects are perfect for industrial use, student class project and for hobbyist use. It also includes complete course in programming the microcontroller combined with assembler, built in editor and simulator. The CD is perfectly suited for beginners as well as advanced user.



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PC Interface Trainer



This Trainer provides a means of interfacing with the PC via the LPT port. The 8255 Trainer is perfect for both desktop and laptop computers. All it needs is an available LPT port, LPT cable and a 9V DC adapter (both supplied with the trainer).

Due to the internal structure of MS Windows, separate drivers are required for both Assembly language and Visual C++ environments.

USB Interface Board

USB Experimenter's Board is designed to introduce you to using a USB interface in your hardware designs. The Board is built around a Cypress Cy7C63001A Universal Serial Bus Microcontroller chip which has been pre-programmed to accept a variety of commands in a relatively simple format. A Windows-based test program is supplied, as well as full documentation of the USB chip.



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PC Board Design and Fabrication Kit

The Kit includes:

- Board Creator Software
- Press-N-Peel Image Transfer Film
- Bottle of Etching Chemical
- Copper Clad Boards
- Software Manual
- Complete Instructions for making PC Board
- More than 100 Hobby Circuits on CD



Make PC Boards the Simplest Way

Features of Board Creator Software

- Boards up to 10" x 8" in. up to 6 layers with 8 masks each.
- Built-in print queue up to 10 masks.
- User selectable cursor layout grid. Up to 1 mil resolution. Items not limited to grid.
- Full surface mount device support.
- Multiple line widths. Lines from 0.001 to 0.255 inches wide.
- Up to 10 different pad shapes and sizes. Custom shapes. Change pad per layer.
- Multiple text attributes per board. Set size, boldness, and more.
- Full support for power and ground planes, with or without thermal relief.
- Interactive part placement. "Rats Nest" prompting for optimal component placement and manual routing.

Built-in design rule checking, locates and displays errors on-screen. Photocopy or Laser Print PCB Layout on to Press-N-Peel Image Transfer Film. Using cloth iron transfer the design onto copper clad board. Peel the film off. PC Board is ready for etching. Does not require photochemical or dark room to transfer PC Board design on to copper clad laminate.



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